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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,600	11/21/2003	Hans-Jurgen Mann	01641/0200095-US0	8677
7278	7590	07/22/2004	EXAMINER	
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			NGUYEN, THONG Q	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/723,600	MANN ET AL.	
	Examiner	Art Unit	
	Thong Q Nguyen	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-28 is/are allowed.
- 6) ☒ Claim(s) 29,30,33 and 37 is/are rejected.
- 7) ☒ Claim(s) 31,32,34-36 and 38-43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/21/03 1/14/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of species (I) in the reply filed on May 7, 2004 is acknowledged. The traversal is on the ground(s) that the features recited in claims 11-16 and 37-43 are additional features of the device having plural features and the claimed language does not preclude the possibility of additional image plane and mirrors. This is found persuasive and thus the restriction set forth in the previous Office action is now withdrawn. All of pending claims 1-43 are examined in this Office action.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 8/16/01 and for a Continuation based on the PCT/EP02/09153 on 8/16/02. It is noted, however, that applicant has not filed a certified copy of the foreign or the PCT application as required.

Drawings

3. The drawings contain nine sheets of figures 1A-6 were received on 11/21/03. These drawings are approved by the Examiner.

Specification

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

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5. The disclosure is objected to because of the following informalities: a) the Summary of the invention is objected to because 1) it contain numerous details of the invention; and 2) it refers to prior art published in the United States of America and in foreign countries. See pages 22-23 and 25; b) Page 10: line 22, "fourth" should be changed to –second--; c) Page 27: line 14, "concave" should be changed to –convex-- , see same page on lines 18 and 22, for example; d) Page 29: line 18, "39" should be changed to –29--, see same page on line 5; e) Page 33: on line 19, "The the" should be changed to –The--; f) Page 41: line 16, "565" should be changed to –465--, see same page on line 17 and page 40 on line 20. There are still some grammatical and idiomatic errors in the specification. Applicant should carefully proofread the specification. Appropriate correction is required.

Claim Objections

6. Claims 16 and 25 are objected to because of the following informalities.

Appropriate correction is required.

- a) In claim 16: the claim recites that the objective consists of six mirrors; however, the base claim 1 recites four mirrors. It is noted that the structure of the objective having six mirrors is recited in claim 11, then should claim 16 be amended the depend upon claim 11 to make clear the feature claimed: and
- b) In claim 25: the use of the terms "in such a way" makes the claim unclear because it is unclear which "way" includes in the mentioned terms. Should "in such a way that" (line 8) be changed to –to direct—or other suitable technical term(s) be used to make clear the feature claimed?

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 29-30 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Phillips (EP 267 766).

Phillips discloses an optical system having four mirrors for imaging an object located in a first plane into a second plane. The system as described in pages 6-7 and shown in figure 3 comprises an objective having a first section for forming an intermediate image of an object and a second section for forming an image of the intermediate image onto a second plane. The first section (72) comprises a first mirror (78) having a central mirror aperture and a second mirror (82) having a central mirror aperture wherein the diameter of the second mirror (82) is larger than the diameter of the first mirror (78). The second section (74) comprises a third mirror (76) having a central mirror aperture and a fourth mirror (80) having a central mirror aperture wherein the diameter of the fourth mirror (80) is larger than the diameter of the third mirror (76). It is noted that the intermediate image and the object are conjugate to each other via the first section (72) of the objective and the intermediate image and the image on the second plane are conjugate to each other via the second section (74) of the objective. In page 6, Phillips discloses that the magnification of the first section is 5.99 and the

magnification of the second section is 2.66 and in page 7, the overall magnification of the objective is 2.25. The objective has a numerical aperture of 0.3 and an obscuration value of 0.33. Such features are satisfying the condition governing the imaging ratio recited on last four lines of present claim 29, claim 30 and claim 33.

9. Claim 37 is rejected under 35 U.S.C. 102(b) as being anticipated by Flint (U.S. Patent No. 5,309,541).

Flint discloses an optical system having a plurality of reflective module arranged in series along an optical path. In the embodiment described in columns 4-5 and shown in figure 5, the system comprises a plurality of reflective modules wherein the number of module being used is dependent upon the user's desire (see column 5, lines 10-15). Each module comprises two mirrors having curved surfaces facing to each other. The first focus point formed by the lens (43) is considered as a point located in a first plane, the focus point (51) formed by the first module having mirrors (45, 46) following the location of the point (42) is considered as a first immediate plane and so on... As a result, the first plane contained the point (42) is conjugated with the plane contained point (51) via the first module and so on. Regarding to the feature of "objective" recited in the preamble of the claim, such a feature is not given a patentable weight because all of the features appeared after the term "comprising" of the claim do not provide any specific limitations/features for the term 'objective" recited in the preamble of the claim.

Allowable Subject Matter

10. Claims 1-28 are allowed over the cited art.
11. Claims 31-32, 34-36 and 38-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
12. The following is a statement of reasons for the indication of allowable subject matter:
 - a) The objective as recited in present claim 1 is patentable with respect to the cited art by the limitations related to the arrangement of the third and fourth mirrors with respect to the diameter of the third mirror in a system having four mirrors for forming an image of an object wherein the first and second mirror forms an intermediate image of the object and the third and fourth mirrors forms a further image of the intermediate image.
 - b) The device as claimed in each of claims 31-32 and 34-36 is patentable with respect to the cited art because the claim contains at least one feature which is not disclosed in the cited art. For instance, the cited art does not disclose the feature related to the condition between the first and second mirror as recited in claim 31 or the overall imaging ratio as recited in claim 32 or the feature related to the ratio between the numerical aperture and the aperture obscuration as recited in claim 34 or the feature related to the numerical aperture as recited in claim 35 or the feature related to the shape of the mirrors used in the objective as recited in claim 36 wherein each of the mentioned feature is constituted an

objective having four mirrors for forming an image of an object wherein the first and second mirror forms an intermediate image of the object and the third and fourth mirrors forms a further image of the intermediate image and the imaging ratio between the object plane and the intermediate plane is greater than 1:1 and the imaging ratio between the further image plane and the intermediate plane is greater than 1:1.

c) The device as claimed in each of claims 38-43 is patentable with respect to the cited art because the claim contains at least one feature which is not disclosed in the cited art. For instance, the cited art does not disclose the feature related to the condition between the imaging ratio between the images and the object as recited in claims 38 and 39 or the overall imaging ratio as recited in claim 40 or the feature related to the numerical aperture as recited in claim 41 or the feature related to the shape of the mirrors used in the objective as recited in claims 42 and 43 wherein each of the mentioned feature is constituted an objective having six mirrors for forming an image of an object wherein the first and second mirror forms an intermediate image of the object; the third and fourth mirrors forms a further image of the intermediate image and the fifth and sixth mirrors forms an image from the further intermediate image.

Conclusion

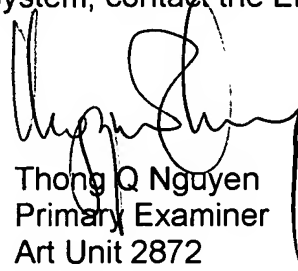
13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q Nguyen whose telephone number is (571) 272-2316. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn, can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thong Q Nguyen
Primary Examiner
Art Unit 2872
